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ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: METHODS FOR IMPROVING THE NUTRITIONAL QUALITY OF RESIDUES OF THE FUEL, BEVERAGE AL-  
COHOL, FOOD AND FEED INDUSTRIES

(57) Abstract: A method is provided for improving the nutritional quality of a fibrous by-product or residue of a food manufacturing process, wherein the fibrous by-product or residue is inoculated with at least one filamentous fungus, and the fibrous by-product or residue is fermented thereby to decrease dry matter content, increase protein content, and decrease fat content of the by-product or residue. Suitable byproducts or residues include spent brewer's grains, dried distiller's grains, dried distiller's solubles, distiller's dried grains with solubles, residues of the cereal processing industry, wheat bran, soybean hulls, citrus pulp, beet pulp, rice husks or hulls, bagasse, apple pomace, and combinations thereof. Enzymes produced during the fermentation may also be used as valuable coproducts such as animal feed supplements, or may be used in primary fermentations for the brewing and distilling industry.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/14735

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A23L 1/28; A23K 1/165; C12P 1/02

US CL : 426/54; 435/171, 71.1

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 426/54; 435/171, 71.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X          | US 2002/0037342 A1 (LABELLE et al.) 28 March 2002, see entire document.            | 1-21                  |

☐

Further documents are listed in the continuation of Box C.

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See patent family annex.

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# INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

WEST:

search terms: fungus/fungi, solid state, enzyme, protease, ferment\$